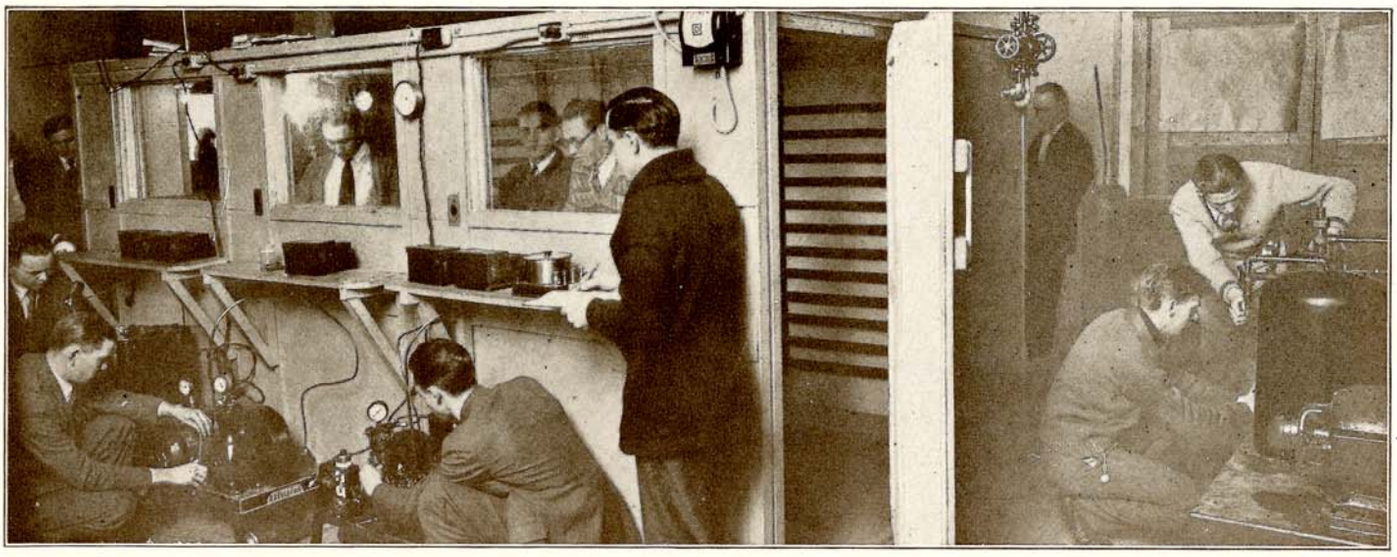
Rise to Success THROUGH ELECTRICITY

A Photo Story of

MILWAUKEE SCHOOL of ENGINEERING

Institute of Electrotechnics



The Constant Temperature Room.

given to emphasize the sales relations which are constantly occurring between any man and his associates in the business, industrial, or social world. The course in Merchandising deals with the use of fundamentals which are essential to a young man wishing to enter business for himself, or to become an executive in a business or organization.

Electrical Refrigeration

The principles underlying every type of machine now on the market are thoroughly discussed and taught, not only in the classroom, but by actual experiments performed on machines of various types.

This machine work is prepared by a thorough study of mechanical refrigeration in general. Thus, the majority of the work outlined is applicable to any make of machine — of any size.

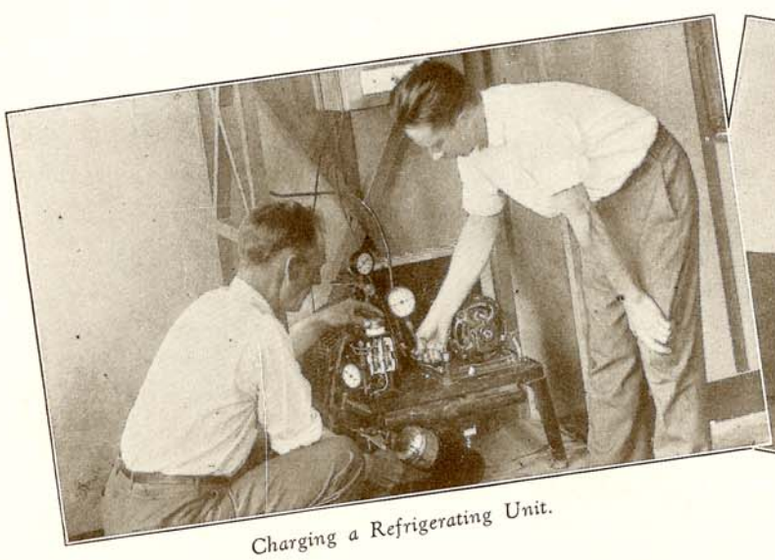
In developing this School of Engineering course, the first of its kind ever offered, we realized that the course must be so flexible that the inexperienced student, as well as the one who is somewhat familiar with refrigeration, will receive the most good out of School of Engineering practical training.

Course of Instruction in Radio

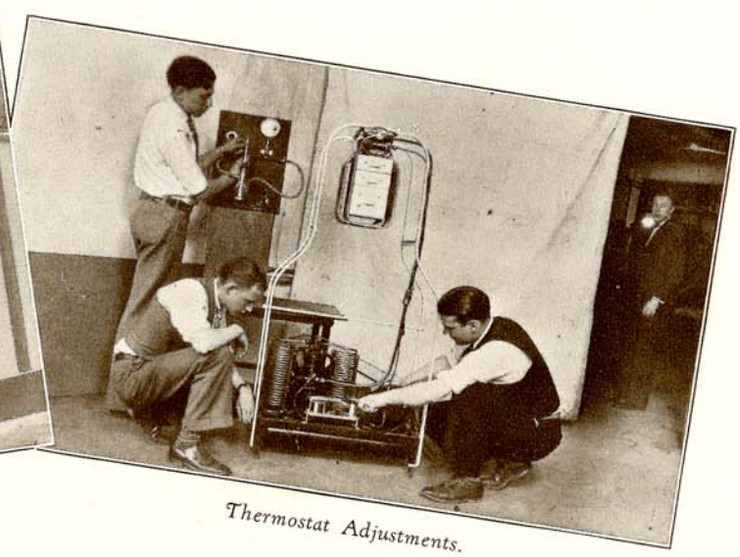
Early in the fall of 1925, the Milwaukee School of Engineering inaugurated its Radio Course. The school had included instruction dealing with the science of wireless communication in its courses for many years, having, in fact, been one of the pioneers in this particular phase of Electrical Engineering. In accordance with its policy of constantly adapting its curriculum to the practical needs of the electrical industry, the school immediately included a complete course of instruction in Radio when it became evident that Radio had come to stay, that it had passed the experimental stage and was rapidly becoming a vital factor in the industrial and economic affairs of the entire civilized world.

The Course is Intensive, Complete and Practical

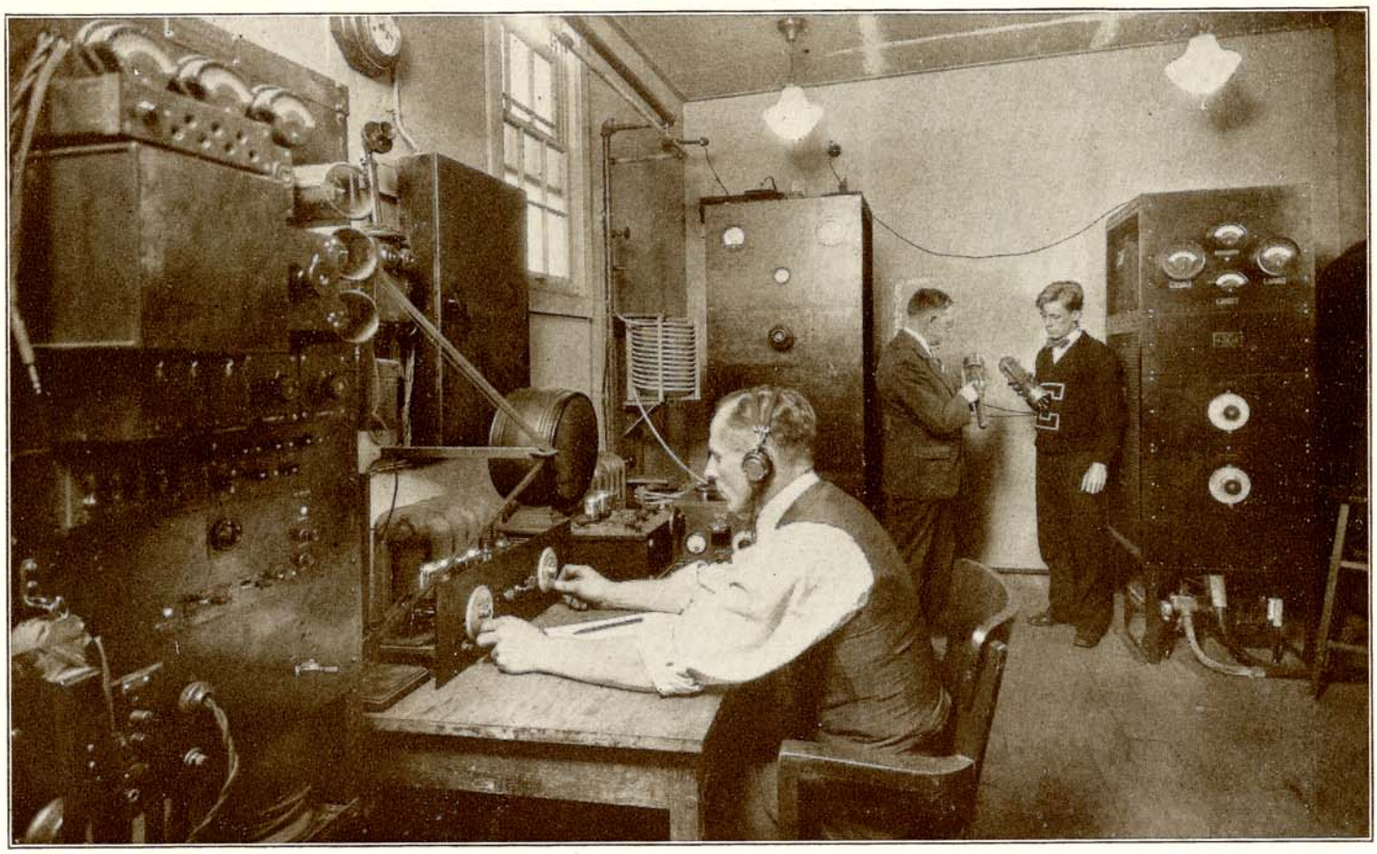
The student becomes greatly proficient in Radio, because he is thoroughly trained in Practice as well as Theory. Completely equipped laboratories and shops allow him to get daily systematic practice. He also receives a thorough knowledge of electricity, including a complete course of instruction in motors and generators. Radio Broadcast Station WISN and Amateur Station W9IUC are supervised by the School of Engineering.



Charging a Refrigerating Unit.



Thermostat Adjustments.



The Transmitting Room of Station WISN.

Equipment

THE Electrical Engineering Department of the Milwaukee School of Engineering has the following laboratory facilities; a Wiring and Meter Laboratory, an Armature Winding Laboratory and a Machine Laboratory.

The **Wiring and Metering Laboratories** are completely equipped with apparatus, such as Wheatstone Bridges, portable testing sets, ballistic and current galvanometers and potentiometer apparatus. The Wiring laboratory contains a great variety of equipment such as bells, buzzers, annunciators, burglar alarms, telegraph and telephone sets for the application of the elementary problems in electricity.

The **Armature Winding Laboratory** is exclusively devoted to the study and repair of the armature. The laboratory contains all of the machine shop apparatus necessary for turning commutators, winding and shaping coils and for the general repair and maintenance of electrical machinery. Complete armature testing equipment is also provided.

The **Machine Laboratory** equipment includes all of the principle types of alternating current motors and generators aggregating a total capacity of over 200 kilowatts,

A Group of WISN Artists.

At the Microphone.

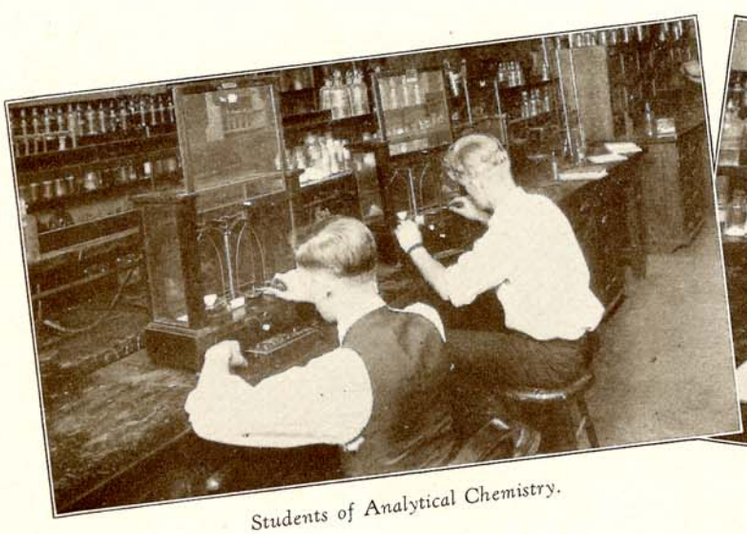
A View of the Chemical Laboratory.

as well as sixteen portable transformers, having a total capacity of 40 Kv.a. In addition to this, there is much auxiliary equipment such as rheostats, lamp banks, etc. All laboratories are supplied with convenient sources of both alternating and direct current, to furnish adequate power for experimental purposes. The motors and generators in the laboratory are mounted on trucks and are so arranged that any two machines may be belted together. The testing equipment in this laboratory includes over 150 portable instruments such as voltmeters, ammeters, wattmeter, frequency meters, tachometers, etc. The laboratory equipment also includes wattmeters with their proper potential and current transformers for high tension testing. Other special equipment includes pilot brush and contact-making apparatus for flux distribution and wave form determinations, and for the work in magetism permeammeters, ballistic galvanometers and their auxiliary equipment is available.

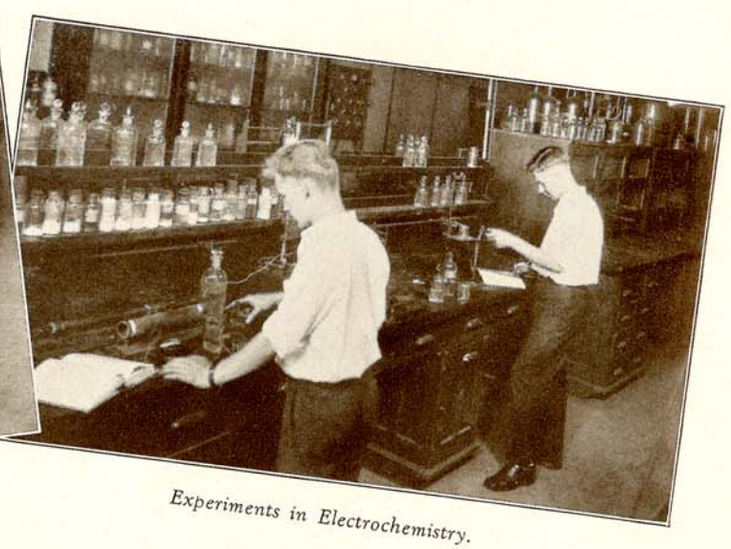
All the equipment in the laboratories together with other apparatus is suitably mounted on "Unit Boards", which have been designed and patented by the Milwaukee School of Engineering.

The power for our laboratories is obtained from the Milwaukee Electric Railway and Light Company, one of the largest electric service corporations in the Northwest.

The **Radio Laboratory** equipment consists of various types and ranges of voltmeters, ammeters, tube testers, set



Students of Analytical Chemistry.



Experiments in Electrochemistry.

The Well-Lighted Drafting Room.

analyzers, control boards for obtaining the characteristics of vacuum tubes; vacuum tube voltmeters, high and low frequency drivers; standard condensers, inductances, resistances, various forms of resonance indicators; transmitting equipment, crystal, Hartley, and other forms of oscillators used for broadcast work.

R. F. Amplifiers, doublers, modulators; Dummy antennas, Letcher wires for measuring wave length, (5 meter transmitters are used for this), Rack and panel public address system; talking picture equipment, test boards for obtaining characteristics of various forms of commercial photo electric cells; (student constructs photo electric cells) Television transmitter and receiver.

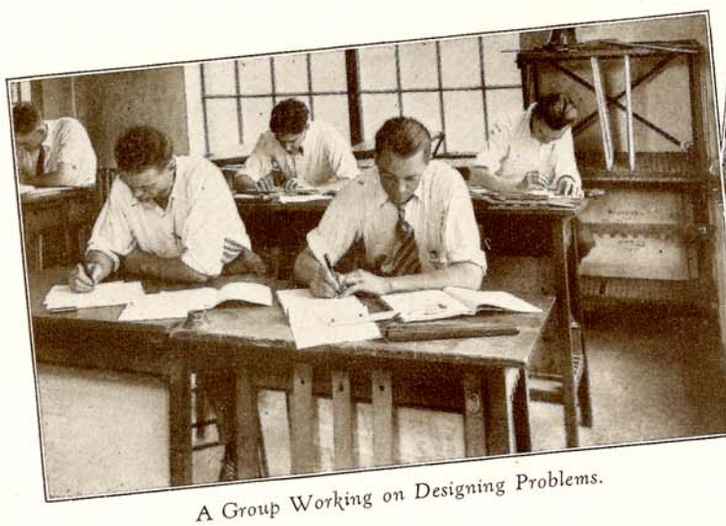
Students holding or obtaining amateur radio licenses may operate the short wave transmitter. The transmitter has an output of 75 watts and can be used to transmit voice or C. W.

The **Refrigeration and Air Conditioning Laboratory** consists of much equipment pertaining to Refrigeration and Air Conditioning, including two one-ton Amonia machines, several household units and two air conditioning units.

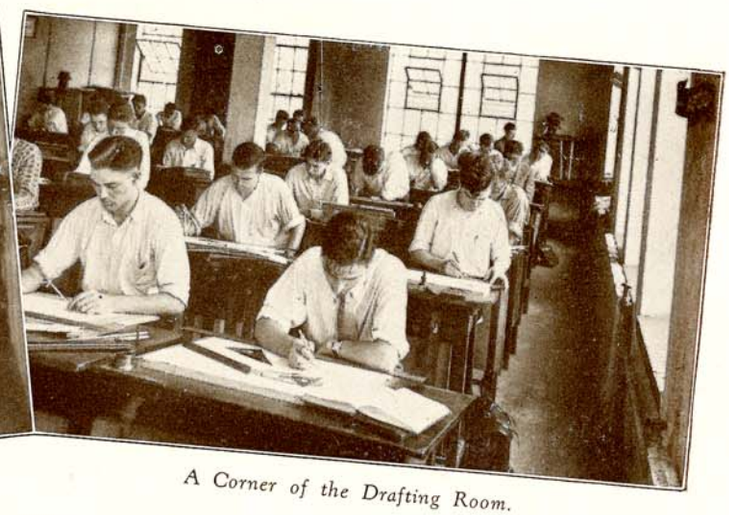
Much special apparatus is at hand for use in performing the laboratory tests illustrating the fundamentals of Refrigeration and Air Conditioning.

A well insulated, constant, temperature room is built in this laboratory for the purpose of performing special tests on various refrigeration and air conditioning equipment.

Here the student becomes familiar with not only the theory, but the practical applications as well, including installations, calculations, and servicing.



A Group Working on Designing Problems.



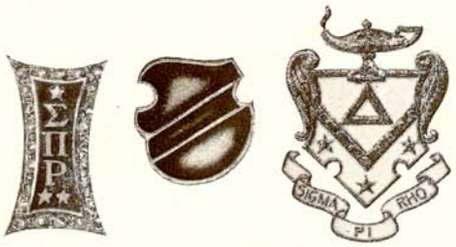
A Corner of the Drafting Room.

and Fraternities . . .

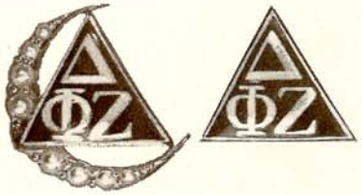
Social Fraternities

AT present there are five active fraternities at the School. The organization of each one calls for a combined engineering and social program of activities. It is through the co-operation of the fraternities, with the homecoming committee, that it has been possible to sponsor the homecoming activities. As with athletics, fraternities are not put first at M. S. O. E., they are considered a part of the intellectual life of the School and tend toward the training of the individual members in leadership within the organizations.

The keys for the members of Sigma Delta Gamma, Delta Phi Zeta and Sigma Pi Rho Fraternities who have obtained their Bachelor of Science Degrees.



Sigma Phi Rho



Delta Phi Zeta

Sigma Delta Gamma

Radio Club

Weekly meetings of the Milwaukee School of Engineering Radio Club, keep its members informed of what goes on in Radio Engineering Research and in amateur and commercial Radio Operation. Lectures and papers are presented by student members as well as guest speakers. The membership includes most of the students in Radio Engineering and those Electrical Engineers whose hobby is radio and electronics.

Older members instruct newcomers in code and radio ethics so that they can take their places in keeping up the transmission schedule maintained by the club through its various transmitters in code and voice. The club has made history in its seven years of existence having communicated with Admiral Byrd's Ship while on its conquest of the South Pole region and having reported first information on the Cuban Hurricane Disaster which wiped out all communication with the mainland in 1926.

The Ham Shack offers unusual advantages for students in Radio Transmission.

Epsilon Rho Epsilon is an organization of the Students and Alumni of the Refrigeration Department. It was founded when the school organized the Mechanical Refrigeration course in 1927, to keep the members, as they go out into the field, informed of the latest developments in Refrigeration and now also in Air Conditioning. Besides its technical meetings the club sponsors social activities for its members and their guests.

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